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AUTHOR Simmons, Roberta G.; And Others
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ABSTRACT

This longitudinal study measured the impact of pubertal development, sex, race, and school type on the self-esteem of 12- and 13-year-old children. One of the questions being investigated was whether the move from a protected elementary school into a larger, more impersonal junior high affected children's self-image more negatively than did a move from 6th to 7th grade within the same school. Subjects were 798 children from 18 elementary schools who were interviewed privately once in 6th grade and a year later in 7th grade. There were three main school populations in the sample: (1) K-8 schools, (2) K-6/ junior high schools with comparable social characteristics, and (3) K-6 junior high schools which were predominately black. The interview consisted primarily of multiple choice questions concerning self-esteem, social and school behavior. Results indicated that white girls scored lower in self-esteem than black girls or white and black boys. An analysis of the data comparing white students in K-8 schools with those in K-6/junior high programs indicated that girls moving into a junior high school were more likely to show low self-esteem than girls remaining in a K-8 system. Boys did not appear to be affected by school type. Maturation (as measured by the presence of menstruation), achievement scores and dating behavior also affected self-esteem in girls. Results are discussed. (SB)

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THE IMPACT OF JUNIOR HIGH SCHOOL AND PUBERTY UPON SELF-ESTEEM

Roberta G. Simmons, Ph.D.,* Dale Blyth, Ph.D., and Diane Bush

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THE IMPACT OF JUNIOR HIGH SCHOOL AND PUBERTY UPON SELF-ESTEEM

Roberta G. Simmons, Ph.D., Dale Blyth, Ph.D. and Diane Bush

The object of the present study is to investigate the impact of pubertal development and environmental change upon the self-esteem and behavior of early adolescent females. In a cross-sectional survey of 1900 school children from Grades 3-12 in Baltimore, Simmons et al. (1973) identified the movement from sixth to seventh grade as a stressful period for the self-picture of children, based on their scores on various social-psychological scales. During early adolescence (the junior high school years), in comparison to the childhood years (Grades 3-6), the students, particularly the females (Simmons and F. Rosenberg, 1975) were shown to exhibit heightened self-consciousness, greater instability of the self-image, slightly lower global self-esteem, lower opinions of themselves with regard to the qualities they valued, and a reduced conviction that their parents, teachers, and peers of the same sex held favorable opinions of them. They were also more likely to show high depressive affect, that is, to indicate unhappiness. In some respects this disturbance appeared to decline among the older adolescents, while along other dimensions it persisted.

To be more specific, the largest negative change seemed to occur among 12 year olds. However, according to Simmons et al. (1973) the child's environmental context appeared to have a stronger effect than age-maturation on these aspects of the self-image. One of the major reasons 12 year olds were more likely than 11 year olds to show an increase in self-image disturbance* appeared to be that 12 year olds had moved into junior high school. Twelve year olds in seventh grade were more liklely to show negative self-images than twelve year olds in sixth grade. There were no

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* The term "disturbance" is used here to indicate any change in a direction presumed uncomfortable for the child. It is not meant to connote psychopathology.

comparable differences between 11 and 12 year olds in the sixth grade or between 12 and 13 year olds in seventh grade. Thus, the movement into a traditional junior high school at the time of puberty appeared to be a significant event for the child.

While several other quantitative studies support this picture of self-image disturbance in early adolescence (Piers and Harris 1964; Offer and Howard 1972), other investigations contradict this conclusion (Bohan, 1973; Long et al., 1968).* However, none of these studies follows the same children over time; all are cross-sectional. The current study, in contrast, is longitudinal following children through this key period with measures both in 6th grade and again in 7th.

In the Baltimore study (Simmons et al., 1973), all children had moved in seventh grade from a K-6 school into a junior high school. Thus, they had moved from a protected elementary school where they usually had one teacher and one set of classmates to a new, much larger, more impersonal junior high where their teachers, classmates and even rooms were constantly charging.

The question arises whether the same disturbance in self-picture would occur if the children attended a different type of school. A kindergarten through 8th grade school (K-8), or a middle school from 4th to 8th grade, might be expected to present the child with a less sudden change in terms of the impersonality of the environment and in terms of others' expectations for adult-like behavior on his part. For this reason, in the present research we have compared children moving into traditional junior high schools to children in K-8 schools who are moving from 6th to 7th grade within the same school.

The familiar question of the role of biology vs. environment is also relevant

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* Also see Engel, 1959; Katz and Zigler, 1967; Jorgensen and Howell, 1969 for other quantitative studies. In addition, several investigators have questioned the assumption of adolescent crisis. See Offer, 1969; Grinker, et al, 1962; Elkin and Westley, 1955; Douvan and Adelson, 1966 and Weiner, 1970 for discussions of this nature.

here. What part does puberty play in challenging the childrens' self-picture and behavior? Since this paper will emphasize the experience of the female students, the issue is whether the self-picture of those girls who have reached puberty are more vulnerable than others to the shift into junior high school. (See Seidman, 1960; Smith and Lebo, 1956; Blos, 1962; Anna Freud, 1958 concerning the role of puberty in the adolescent crisis). Past studies are unclear whether early or late maturing girls are at a psychological advantage (See Clausen, 1975; Faust, 1960). At different ages and at different locations in the social structure, the direction of results appears to change. (See Mussen et al, 1969, pp. 613-16).

Thus, with a key developmental year identified, we shall focus on the influence of environmental and biological changes on girls' self-picture and behavior.

METHOD

Sampling

This study was conducted in Milwaukee in 1974-6. Seven hundred and ninety-eight school children from 18 elementary schools were followed from Grade 6 to 7. These children were interviewed privately by trained survey interviewers, once in sixth grade and a year later in seventh grade.

Parental permission was solicited from all sixth graders in the sampled schools in Milwaukee and was secured from 80% of this original population; 88% of these students remained in the school system for the two years of the longitudinal study. There were three main populations of schools from which we sampled: (1) 8th grade-top schools (K-8) which involved no change of schools for the child in 7th grade, (2) 6th grade-top schools (K-6) with comparable social characteristics (the 8th grade-top schools do not include predominantly black schools); and (3) the remaining 6th grade-top schools (K-6) which are heavily black. Schools that are heavily Spanish-speaking in composition were excluded from all populations. All 7 K-8 schools were included for measurement although one school refused to participate. A

stratified random sample of K-6 schools were chosen from each of the above categories. The stratification variables were the percent of minority students in the school and the size of the school. All together there were 18 schools included in the final sample: six K-8 schools, eight comparable K-6 schools, and 4 predominantly black K-6 schools.

Two criteria were important in the evaluation of the sample design: first, did the sample reflect the population accurately. In order to help assure such comparability, a technique of constrained randomization was utilized. A standard was set ahead of time such that if the randomly drawn sample of K-6 schools within any given stratum of percent minority showed a sample mean more than one standard deviation away from the population mean on either of two important characteristics, a completely new random sample of schools within that level would be drawn. The two characteristics involved were mean median family income and the mean percent of under-achievers. Due to the constrained randomization procedure, it was necessary to re-draw once the sample of 4 heavily black schools.

As a result of this procedure, Table 1 shows that the sample schools are very similar to the population of schools in that category on a variety of variables. (Compare Col. 1 to 2, 3 to 4, and 5 to 6). By weighting our sample to reflect the proportion of K-6 schools of that type in the population, we can estimate the extent to which a given characteristic will appear in the population if the sample is representative. Where such weighted estimates are compared to actual population proportions, (Compare the last two columns), it can be seen that the figures are quite comparable. (Since the sample includes almost the entire population of K-8 schools, such estimates are unnecessary for them).

A second criteria in the evaluation of the sampling design involved the comparability of the K-8 schools and the K-6 schools that were supposed to be similar. In order to claim that differences between children in K-8 and K-6 schools reflected differential reactions to the school-types rather than initial differences, it was

TABLE 1

Comparison of Sampled K-6 Schools to Population of K-6 Schools

Social Characteristics	% Minority: 0 - 20% Pop.	0 - 20% Sample	21 - 42% Pop.	21 - 42% Sample	43 - 100% Pop.	43 - 100% Sample	Total Pop.	Total Weighted Sample[5]
Mean % minority	6.2%	8.0%	34.7%	35.8%	82.9%	88.2%	25.6%	31.6%
Range of % minority	0-20	2-19	30-41	30-41	43-100	58-100	0-100	2-100
Mean of Median Family Income[1]	$11,638	$11,405	$10,212	$10,638	$7,714	$7,834	$10,478	$10,373
Achievement[2] % Scoring below average	26.5%	25.2%	47.0%	42.0%	73.6%	76.8%	40.6%	40.4%
% Scoring above average	15.2%	16.2%	6.0%	8.5%	1.8%	2.5%	11.1%	12.0%
Mean % Mobility[3]	18.8%	18.3%	27.0%	29.8%	34.6%	38.1%	23.6%	24.3%
Mean % children above age for grade	15.9%	15.0%	19.9%	20.2%	26.4%	27.7%	19.0%	18.8%
Mean # of 6th graders[4]	72.5	73.3	55.0	41.0	74.3	75.5	72.2	72.5
Mean % of Teachers with B.A.	79.1%	75.5%	78.5%	79.8%	77.2%	80.8%	75.1%	77.2%
Mean % of teachers with only 1 year experience	7.5%	2.9%	8.2%	6.4%	14.9%	13.8%	9.6%	6.1%
Number of Schools	46	6	3	2	19	4	68	12

1. The median family income was obtained from the 1970 U.S. Census Reports and is based on the census tract within which the school was located.

2. Achievement is measured by the percentile rank on the Composite Test of the Iowa Tests of Basic Skills. The group scoring below average is made up of those children whose percentile was less than 23. Those scoring above the 77th percentile were defined as above average.

3. This is the percentage of students who either move into or out of the school during the school year.

4. Based on 5th grade figures for the 1973-74 school year.

5. To make these estimates, each school's figures are weighted according to the proportion of this type of school in the population of K-6 schools.

necessary to search for possible initial differences. Table 2 shows virtually no differences between the K-8 and comparable K-6 schools on a variety of social characteristics.

Within the schools sampled, all sixth grade students were invited to be interviewed, giving every student within each stratum of the sample an equal probability of being selected.

Measurement

The survey interview consisted primarily of multiple-choice questions concerning the self-picture, and social and school behavior.

Self-Esteem

The major dependent variable measured in this questionnaire is self-esteem. Self-esteem is defined here as an individual's global positive or negative attitude toward him or herself. In this usage the individual with high self-esteem considers her/himself to be a person of worth, though not necessarily superior to others. Low self-esteem, on the other hand, implies self-rejection, self-dissatisfaction, or self-contempt. Self-esteem is measured here by a six-item Guttman Scale. In the Milwaukee study, the Reproducibility is 93.1 and the Scalability is 76.4. This measure has been employed in several studies (Rosenberg, 1965, Rosenberg and Simmons, 1972, Simmons and Rosenberg, 1975a, b, and Wells and Marwell, 1976).

The scale itself is as follows:

> Everybody has some things about him which are good and some things about him which are bad. Are more of the things about you...Good, *Bad, or "Both about the same.
>
> Another kid said, "I am no good." Do you ever feel like this? (IF YES, ASK): Do you feel like this a *lot, or a *little? "I am no good?"
>
> A kid told me: "There's a lot wrong with me." Do you ever feel like this? (IF YES, ASK): Do you feel like this a *lot, or a *little? "There's a lot wrong with me."
>
> Another kid said: "I'm not much good at anything." Do you ever feel like this? (IF YES, ASK): Do you feel like this a *lot, or a *little? "I'm not much good at anything."

TABLE 2

Comparison of Sampled K-6 Schools with K-8 Schools

Social Characteristics	% Minority [5] 0 - 20% K-8	0 - 20% K-6 Sample	21 - 42% K-8	21 - 42% K-6 Sample	Totals K-8	Totals Comparable K-6 Sample
Mean % minority	10.2%	8.0%	35.2%	35.8%	18.5%	15.0%
Range of % minority	2-15	2-19	32-38	30-41	2-38	0-41
Mean of Median Family Income [1]	$11,937	$11,405	$9,925	$10,638	$11,267	$11,213
Achievement [2]						
%Scoring below average	25.0%	25.2%	55.5%	42.0%	35.2%	29.4%
%Scoring above average	22.0%	16.2%	6.0%	8.5%	16.7%	14.3%
Mean % Mobility [3]	18.4%	18.3%	25.3%	29.8%	20.7%	24.9%
Mean % children above age for grade	20.3%	15.0%	27.0%	20.2%	22.5%	16.3%
Mean # of 6th graders [4]	69.8	73.3	50.5	41.0	63.3	65.2
Mean % of teachers with B.A.	64.2%	75.5%	80.0%	79.8%	69.5%	76.6%
Mean % of teachers with only 1 year experience	6.4%	2.9%	19.4%	6.4%	10.8%	3.8%
Number of Schools	4	6	2	2	6	8

1. The median family income was obtained from the 1970 U.S. Census Reports and is based on the census tract within which the school was located.

2. Achievement is measured by the percentile rank on the Composite Test of the Iowa Tests of Basic Skills. The group scoring below average is made up of those children whose percentile was less than 23. Those scoring above the 77th percentile were defined as above average.

3. This is the percentage of students who either move into or out of the school during the school year.

4. Based on 5th grade figures for the 1973-74 school year.

5. Note that there are no K-8 schools with 43-100% minority students and hence no comparison with the K-6 schools is possible.

Another kid said, "I think I am no good at all." Do you ever feel like this? (IF YES, ASK): Do you feel like this a *lot, or a *little? "I think I am no good at all."

How happy are you with the kind of person you are? Are you ... Very happy with the kind of person you are, Pretty happy, *A little happy, or *Not at all happy.

The responses indicated by an asterisk indicate low self-esteem.

Academic Achievement and School Behavior Problems

Among other dependent variables to be investigated are the students' academic achievement and school behavior problems. Academic achievement was measured by grade point average (GPA) and scores on the Iowa Test of Basic Skills, a national standardized achievement test.

To measure school behavior problems, information was secured both from school principals and from students' self-reports. A Guttman scale was created from the self-report measure with a Reproducibility of .956 and a Scalability of .83 according to the Ford technique of computing coefficients (Ford, 1950):

Since you started 6th grade, how many times have you been sent to the principal's office because you had done something wrong?

1. Never done this
2. Done it only 1 or 2 times
3. Done it 3 or 4 times
4. 5 to 10 times
5. More than 10 times

Since you started 6th grade, how many times have you been placed on school probation or suspended from school?

1. Never done this
2. Done it only 1 or 2 times
3. Done it 3 or 4 times
4. 5 to 10 times
5. More than 10 times

Since you started 6th grade, how many times have you skipped school or played hookey?

1. Never done this
2. Done it only 1 or 2 times
3. Done it 3 or 4 times
4. 5 to 10 times
5. More than 10 times

Do you get into ...

1. A lot of trouble at school
2. A little trouble at school
3. No trouble at school

How much trouble do your teachers feel you get into at school?

1. A lot of trouble at school
2. A little trouble at school
3. No trouble at school

Correlation between measures secured from principals and from students was .33 ($p = .001$).

Puberty

In addition to school-type, pubertal development is a major independent variable. For the purposes of this paper we simply distinguish between girls who have begun to menstruate and girls who do not. This information was collected within a few weeks of the survey interview by a nurse who also weighed and measured the children and collected other relevant information.

FINDINGS

The Self-Image of Girls vs. Boys

Table 3 shows, first of all, that adolescent girls appear more vulnerable than boys both in sixth grade and seventh grade. For example, in seventh grade 37% of girls score low in self-esteem compared to only 20% of boys ($p = .0001$). In Table 4 we see that it is the white female rather than the black who is particularly likely to demonstrate low self-esteem. These findings are consistent with data reported from the above-mentioned Baltimore study as well as from other investigators (See Rosenberg and Simmons, 1972; Simmons and F. Rosenberg, 1975; Offer and Howard, 1972, Bohan, 1973).

Not only do girls appear to view themselves as less worthy as total individuals than do boys, they also regard their sex-role as less good (Table 5). All students

TABLE 3

Self-Esteem by Sex

	6th Grade		7th Grade	
Self-Esteem	Male	Female	Male	Female
Low	23%	39%*	20%	37%*
Medium	33%	29%	32%	29%
High	43%	31%	48%	34%
	100%	100%	100%	100%
N	(416)	(377)	(416)	(378)

* According to a Chi Square analysis, p = .0001.

TABLE 4

Self-Esteem by Sex, by Race

% High Self-Esteem

	White		Black	
	Girls	Boys	Girls	Boys
Grade 6	27% (258)	38% * (292)	44% (104)	55% ** (107)
Grade 7	27% (257)	40% * (290)	54% (103)	67% ** (105)

According to a Chi Square analysis,

* $p \leq .001$
** $p \leq .10$

TABLE 5

Attitude Toward Sex-Role by Sex

	6th Grade		7th Grade	
	Male	Female*	Male	Female*
Attitude toward being own sex				
"Great"	60%	44%	58%	41%
"Good"	34%	38%	37%	42%
"Fair or Poor"	6%	18%	4%	17%
	100%	100%	100%	100%
	(419)	(379)	(418)	(378)

* According to a Chi Square test, the differences between males and females is statistically significant at $p < .0001$.

were asked:

> How do you feel about being a girl(boy)? Is it great, good, fair, or poor to be a girl(boy)?

As Table 5 shows, in seventh grade only 41% of girls thought it was "great" to be their own sex in contrast to 58% of boys ($p < .0001$).

The question arises, however, whether the relationships between sex and self-esteem or between sex and attitudes toward one's sex-role might be contaminated by a response-bias often called "social desirability" (Crowne and Marlowe, 1964). This term is used to refer to the possible tendency of certain individuals or groups to reply to questions in a way which they feel is socially desirable or acceptable rather than in a manner that expresses their actual ideas and opinions. In other words, children who are less willing in general to admit to socially undesirable thoughts may also be less likely to indicate low evaluations of themselves or their sex.

In a random half of our seventh grade interviews in Milwaukee we included questions designed to assess the extent to which respondents were biased in this way. The Pearson correlations between social desirability and self-esteem and sex are statistically significant but are less than or equal to .15. However, these correlations could not account for females' greater tendency to admit to low self-evaluations, since females have a <u>greater</u> tendency to reply in a socially desirable manner than do males.

Furthermore, when partial correlations are run between sex and self-esteem and between sex and evaluation of one's sex-role controlling for social desirability, the findings change very little over the zero-order correlations. For example, the correlation between sex and self-esteem remains practically the same (-.20 to -.18) as does the correlation between sex and evaluation of one's sex-role (.27 to .28). We therefore have concluded that sex differences in self-evaluation do not appear to be an artifact of social desirability. Females demonstrate lower self-esteem and a less favorable view of their own sex, even when this control

is instituted.

Role of School-Type

Since the K-8 schools and the comparable K-6 schools in the sample are predominantly white and since black children react somewhat differently in terms of the self-picture, the rest of this analysis will concentrate on white students. As the analysis proceeds we shall narrow our attention to the most vulnerable type of child: in this case, the white girl. Table 6 shows the relationship between school-type and self-esteem for seventh grade white boys and girls. White boys do not appear affected by school-type; their self-esteem stays about the same whether they are in K-8 schools or junior-high schools. However, girls seem to find the move into junior high school more stressful for the self-picture than remaining in a K-8 system. Junior high girls are more likely than K-8 girls to exhibit low self-esteem (45% vs. 34%). As a result, the discrepancy in self-esteem between boys and girls in seventh grade is much greater in the junior high school than in K-8 schools (Table 6).

An analysis of the longitudinal data also points to the vulnerability of the white junior high girls. This analysis examines differential change between sixth and seventh grade among boys and girls in differing school types. Based on a regression analysis in which the seventh grade self-esteem score is the dependent variable, the sixth grade score is the co-variate and sex and school-type are the independent variables (See Blyth, 1977), Figure 1 shows statistically significant differences among the four groups depicted in terms of their patterns of change.* In fact three groups are very similar: K-8 boys and K-8 girls, show a slight rise in self-esteem between sixth and seventh grade and junior high boys change very little.

* To be more precise, a regression model using sex and school-type to predict 7th grade self-esteem explains significantly more of the variance than a model using (1) 6th grade self-esteem score alone, (2) sex and 6th grade self-esteem score; or (3) school type and self-esteem score.

TABLE 6

Self-Esteem by School-Type by Sex

	Boys		Girls	
	K - 8	Comparable Junior High	K - 8	Comparable Junior High
Low Self-Esteem	25% (28)	23% (39)	34% (32)	45% (67)
Medium	32% (36)	38% (63)	32% (30)	30% (42)
High	42% (47)	39% (66)	33% (31)	25% (37)
	100% (111)	100% (168)	100% (93)	100% (148)

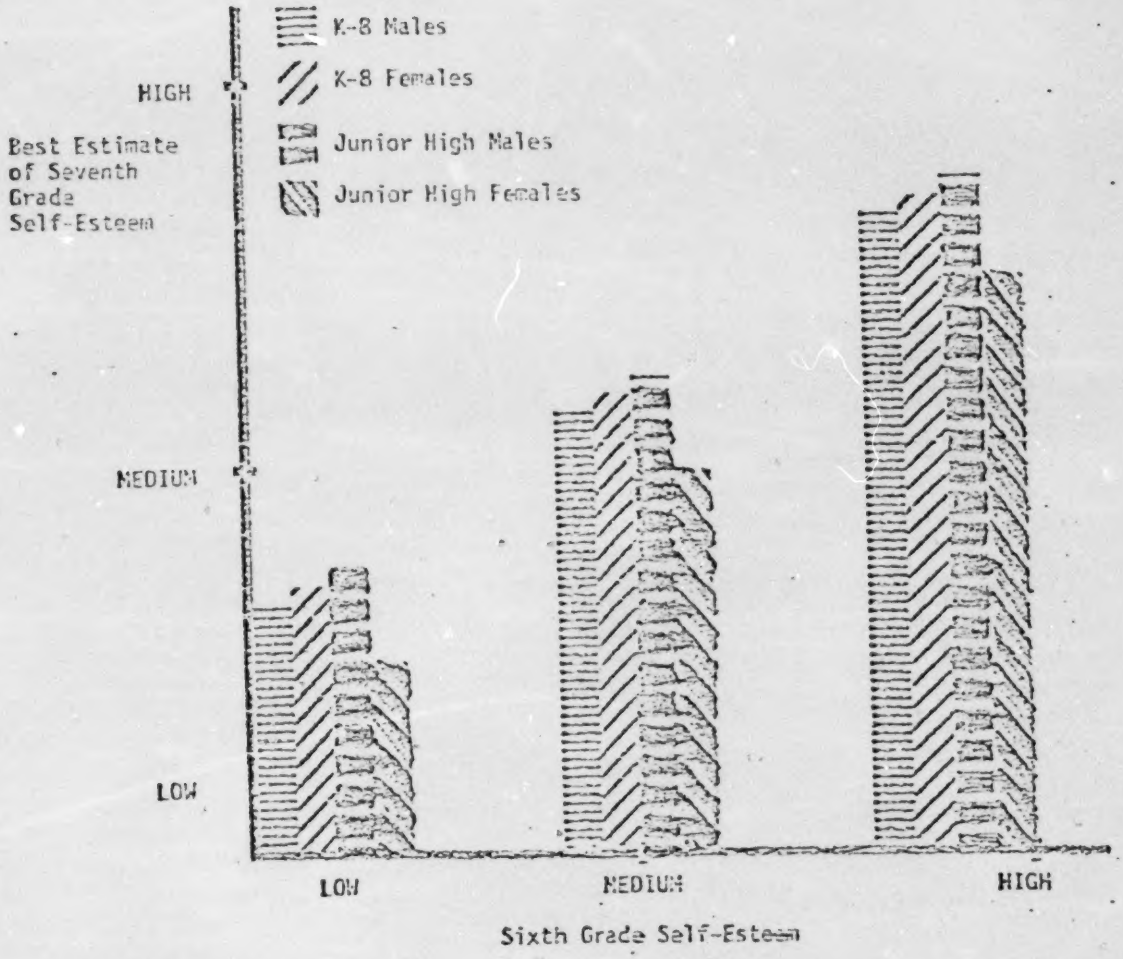
* *

Discrepancy Between Boys and Girls

	K - 8	Comparable Junior High
Low Self-Esteem	9%	22%
High Self-Esteem	9%	14%

FIGURE 1 THE BEST MODEL OF DIFFERENTIAL CHANGE IN STUDENT'S SELF-ESTEEM*

FOUR GROUP MAIN EFFECTS MODEL



Mean Self-Esteem

	Grade 6	Grade 7
K-8 males	3.6	3.9
K-8 females	3.0	3.4
Jr. High males	3.8	3.8
Jr. High females	3.2	3.0

* According to a multiple regression analysis, this model using sex and school type to predict self-esteem accounts for significantly more of the variance than do simpler models using either (1) 6th grade self-esteem alone; (2) sex and 6th grade self-esteem, or (3) type of school and self-esteem. $p \leq .01$.

TABLE 7

Self-Esteem by School Type, Pubertal Development, Dating Behavior

7th Grade White Females
% low self-esteem

(A)		(B)				(C)							
						K - 8				Jr. High			
						Date		Not Date		Date		Not Date	
K - 8 Schools	Jr. High Schools	Date & Have Period	Date & Not Have Period	Not Date & Have Period	Not Date & Not Have Period	Period	Not	Period	Not	Period	Not	Period	Not
34% (93)	45% (148)	50% (50)	36% (45)	38% (63)	40% (76)	36% (22)	24% (17)	36% 22)	32% (28)	61% (28)	43% (28)	39% (41)	44% (48)

In contrast, the junior high girls show a decline in self-esteem between sixth and seventh grade.

Role of Puberty

What impact does pubertal development have on the self-esteem of the girl? While pubertal development itself does not seem to have a great effect, combined with level of dating behavior* it appears to be a meaningful factor. As Table 7B shows, early-maturing girls (as measured by the presence of menstruation) who had also begun dating-like behavior were the most likely to indicate low self-esteem: 50% of such girls showed low self-esteem in contrast to 36% to 40% of other girls. Moreover, 61% of early-maturing, dating girls in junior high school score low in self-esteem compared to 24% to 44% of other sub-groups (Table 7C). The small numbers of cases in some of these sub-groups, however, leads us to be somewhat tentative in this conclusion. (Overall the disadvantage of girls who date vs. girls who don't in terms of their self-esteem is statistically significant at $p = .03$).**

Thus, according to these data, girls who are undergoing changes in three major areas simultaneously are the ones to demonstrate the lowest self-esteem -- girls who have reached puberty, who have embarked on the new social behavior of dating, and who have experienced a major environmental change by moving into junior high school.

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* Early dating behavior was indexed by the following three-item scale:

Do you ever go to dances or parties where there are both boys and girls present?

_____Yes _____No

Do you ever go out with another girl and a couple of boys or meet a group of boys and girls at night?

_____Yes _____No

Do you ever go out with a boy alone?

_____Yes _____No

This is a Guttman scale with a Reproducibility of .92 and a Scalability of .71.

** It should be noted that we are talking of early dating here. Douvan and Adelson (1966, pp. 215-16) also suggest that too early dating has psychological disadvantages. However, in late adolescence Douvan and Adelson (1966) indicate a lower level of adjustment among non-dating girls.

School Behavior Problems and GPA

There is also evidence that these same girls are more likely to demonstrate low school achievement and school behavior problems. As Table 8 shows, girls who have reached puberty and have begun menstruation are more likely to earn low scores on achievement tests (56% vs. 37%) as well as low grades (28% vs. 19%), and if they also have begun dating they are most likely to be the ones exhibiting school behavior problems (42% vs. 16% to 32%). Similarly, girls who have begun dating are more likely to score lower in achievement tests (54% vs. 42%) and in grade point average (32% vs. 17%) and also to show behavior difficulties in school (38% vs. 15%).

The question arises whether dating early generates enough stress to produce these symptoms or whether those children who already are having school problems are therefore motivated to begin dating. A cross-lagged correlation analysis (Table 9) indicates that while both causal processes probably operate, the more frequent causal pattern is the latter -- children with school problems therefore turn to heterosexual relationships. The correlations between sixth grade school difficulty (either in terms of scores on achievement tests or behavior problems) and seventh grade dating are larger than the correlations between sixth grade dating and seventh grade school difficulty (e.g., for school behavior problems and dating, compare .23 to .10; for scores on achievement tests and dating, compare -.11 to -.03).*

These findings raise a question about the initial relationship between low self-esteem and the early dating, pubertal junior high school girls. It is possible that the relationship is an artifact -- that there is no causal connection operating

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* In terms of the relationship between a low grade point average and early dating, the direction of causality appears reciprocal, however, with neither variable the more important influence. An analysis using partial cross-lagged correlations yields the same conclusions in all cases.

TABLE 8

Achievement and Delinquency Behavior by Dating Behavior and Pubertal Development

White 7th Grade Girls

	(A) Presence of Period		(B) Dating Behavior		(C) Period		Not Period	
	Yes	No	Date More	Date Less	Date More	Date Less	Date More	Date Less
% Low Achievement	56% (119)	37%** (128)	54% (99)	42% (144)	66% (50)	50% (65)	39% (48)	35% (79)
% Low GPA	28% (123)	19%* (130)	32% (101)	17%*** (148)	38% (52)	19% (67)	31% (48)	47% (81)
% High Delinquency	29% (126)	22% (130)	38% (103)	15%*** (150)	42%** (55)	16%*** (67)	32% (47)	15%** (82)

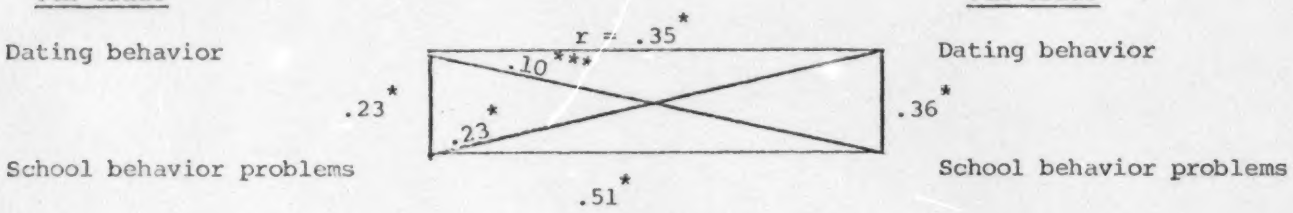
* $p < .05$
** $p < .01$
*** $p < .001$

TABLE 9

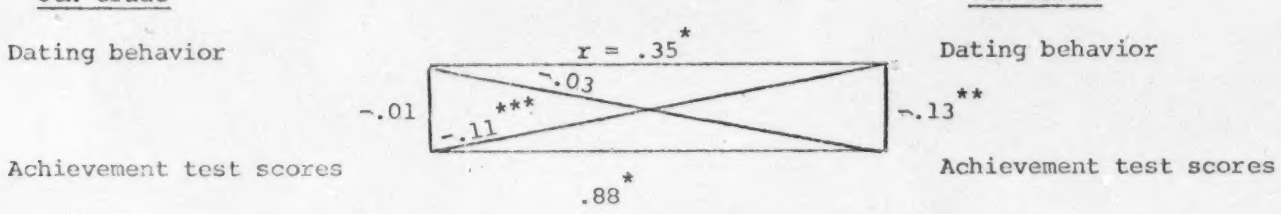
Dating Behavior and School Behavior

Cross-Lagged Correlations - White Girls

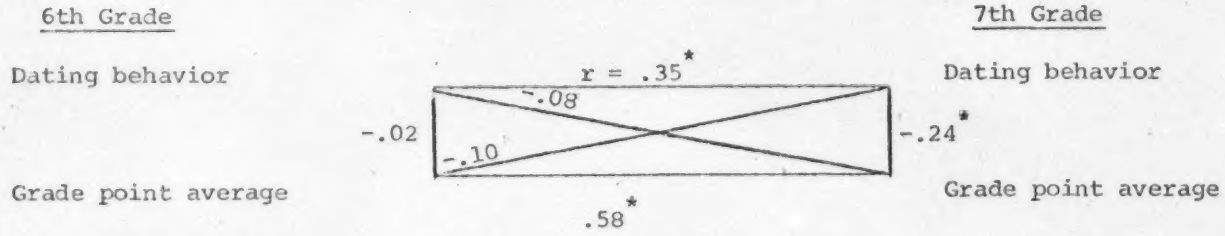
(A) Dating Behavior and School Behavior Problems (N = 256)



(B) Dating Behavior and Standardized Achievement Test Scores (N = 251)



(C) Dating Behavior and Grade Point Average (N = 254)



* $p \leq .001$
** $p \leq .05$
*** $p \leq .10$

here. Instead, children who are having problems in school therefore (1) have lower self-esteem and (2) independently turn to dating or heterosexual relationships. In order to explore these possibilities, we have tested to see whether the relationship first between self-esteem and dating behavior and second between low self-esteem and being an early-dating, pubertal junior high student persists when we control for the level of school difficulty. In both cases, the relationship does persist.

Thus, if we dichotomize girls into two types -- the group of early-dating, pubertal, junior high girls vs. all other girls -- we find a small but significant zero-order correlation of -.14 ($p = .04$) between this factor and self-esteem in the seventh grade. Controlling for sixth grade grade-point average, scores on achievement tests, school behavior problems, and socio-economic status, the partial correlation is reduced only slightly to -.12 ($p = .07$). In sum, the data indicate those early-dating girls who are also confronted with physical maturation and a major change in school environment are still more vulnerable than others in terms of their self-picture. The relationship is not an artifact of the correlation between early dating behavior and school behavior problems.

CONCLUSION

In terms of their self-esteem, white adolescent girls who have entered the new environment of junior high school appear then to be at a disadvantage in comparison both to boys in general and also to those girls who do not have to change schools in seventh grade. When the entrance into adolescence is sudden and discontinuous (See Benedict, 1954), girls appear to have greater difficulty in adjustment. Those girls who not only have entered junior high school but also have reached puberty and have started dating-like behavior appear to have lower self-esteem than do other types of girls. In addition, they tend to be the same

girls who are more likely to exhibit delinquent behavior and to earn a lower grade-point average.

The exact reason such girls are more likely to be vulnerable is not yet clear. It may be that it is more difficult to cope with several major changes simultaneously. The combination of environmental discontinuity, pubertal change, and new social behavior may engender stress. (See Douvan and Adelson, 1966, Ch. 6 for a discussion of the challenge of dating to the self-picture.) An alternate explanation is that it is less a matter of adding up diverse sources of change and more a question of the unique combination of factors. That is, the developed girl who has started to date may be under very different pressures than less developed girls who are dating. She may be treated very differently by her dates. Sexual pressures may be more of an issue for the developed girl. Girls who have reached puberty are more likely to have a special boyfriend (46% vs. 33%, $p = .05$); and such girls are less likely to score positively in self-esteem. (Twenty-two percent of girls with special boyfriends have high self-esteem in contrast to 32% of girls without special boyfriends). Adopting new social and sexual behavior may be stressful for these girls whose physical maturity is in advance of their emotional maturity.*

Whether the vulnerability evidenced by these early adolescent girls is a temporary reaction to change or whether it persists into later years is a question that can be answered only by future research.

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* See Douvan and Adelson (1966, pp. 215-16) for discussion of problems of too early dating for girls in terms of impulse-management, the foregoing of extended relationships with other girls, and the resolution of negative feelings toward the mother.

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